

**CLAIMS**

I claim:

- 1        1. A method for controlling fans comprising:  
2                arranging a combination of thermal sensors;  
3                coupling the combination of thermal sensors to a thermal data channel of a  
4 controller; and  
5                controlling cooling devices in accordance with the thermal data channel.
- 1        2. The method of claim 1, wherein arranging comprises placing the  
2 thermal sensors in proximity to electrical devices.
- 1        3. The method of claim 2, wherein the electrical devices are processors.
- 1        4. The method of claim 1, wherein the thermal sensors are coupled in  
2 parallel.
- 1        5. The method of claim 4, wherein the thermal sensors are constructed to  
2 respond uniformly to changes in temperature.
- 1        6. The method of claim 1, wherein the thermal sensors are diodes.
- 1        7. The method of claim 1, wherein the thermal sensors are transistors.
- 1        8. The method of claim 1, further comprising installing the controller and  
2 the combination of thermal sensors in an electronic enclosure.
- 1        9. An electronic assembly comprising:  
2                means for housing a plurality of active integrated circuit devices; and  
3                means for controlling cooling devices proximal to select integrated circuit  
4 devices, wherein said means for controlling cooling devices is coupled to a  
5 combination of a first thermal sensing means and a second thermal sensing means.

1        10.    The electronic assembly of claim 9, wherein said means for controlling  
2    cooling devices uses a single thermal data channel to sense thermal information  
3    provided by the first and second thermal sensing means.

1        11.    The electronic assembly of claim 9, wherein said means for controlling  
2    cooling devices drives a first cooling device located proximal to a first processor and  
3    a second cooling device located proximal to a second processor.

1        12.    The electronic assembly of claim 11, wherein said means for  
2    controlling cooling devices drives the first and second fans in response to the warmest  
3    of the first processor and the second processor.

1        13.    The electronic assembly of claim 9, wherein the combination of the  
2    first thermal sensing means and the second thermal sensing means is arranged in  
3    parallel.

1        14.    An apparatus comprising:  
2        a first device fan located proximal to a first select electrical device;  
3        a second device fan located proximal to a second select electrical device;  
4        a combination of a first thermal sensor and a second thermal sensor, wherein  
5    the first thermal sensor is located proximal to the first select electrical device and the  
6    second thermal sensor is located proximal to the second select electrical device; and  
7        a fan controller having a first thermal data channel coupled to the combination  
8    of the first and second thermal sensors.

1        15.    The apparatus of claim 14, wherein the fan controller senses the  
2    warmer of the first select electrical device and the second select electrical device and  
3    drives both the first device fan and the second device fan in accordance with a  
4    thermal operating profile for the first and second select electrical devices.

1        16.    The apparatus of claim 15, wherein the first select electrical device  
2    and the second select electrical device comprise integrated circuits.

1           17. The apparatus of claim 14, wherein the first and second thermal  
2    sensors respond uniformly to changes in temperature.

1           18. The apparatus of claim 14, wherein the first and second thermal  
2    sensors are diodes.

1           19. The apparatus of claim 14, wherein the first and second thermal  
2    sensors are transistors.

1           20. The apparatus of claim 14, wherein the first device fan and the second  
2    device fan are substantially similar.

1           21. The apparatus of claim 14, further comprising:  
2           an enclosure having an enclosure fan and a third thermal sensor coupled to a  
3    second thermal data channel of the fan controller.

1           22. The apparatus of claim 21, wherein the fan controller senses  
2    temperature using the third thermal sensor and the second thermal data channel and  
3    drives the enclosure fan in accordance with a thermal operating profile for the  
4    enclosure.